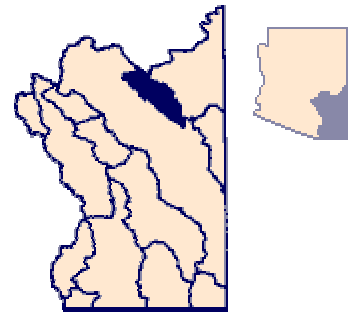


BONITA CREEK BASIN

The Bonita Creek basin is located in east-central Arizona and covers approximately 490 square miles in the Central Highlands physiographic province (Figure 17). It is bounded to the northeast by the Nantec Rim and to the southwest by the Gila Mountains. Elevation ranges from over 7,000 feet above mean sea level on the Nantec Rim to about 3,200 feet above mean sea level at the confluence of the Gila River and Bonita Creek. Bonita Creek is perennial from about the San Carlos Indian Reservation boundary, south to its confluence with the Gila River.



The Bonita Creek basin is divided informally into the upper and lower areas. The upper Bonita Creek area (that part of the basin which is found on the San Carlos Indian Reservation) is made up of a high broad valley and surrounded by the Gila Mountains and Nantec Rim. Valley-fill material consists of alluvial sands, silts, and gravels, interfingering with volcanic flows (Brown, 1989).

Volcanic flows, agglomerates, and tuffs which cover most of the lower Bonita Creek area are interbedded with minor sedimentary lenses (Heindle and McCullough, 1961). Alluvial deposits including floodplain and channel gravel deposits occur in stream courses.

Very few wells exist in the upper Bonita Creek area. Most tap the valley-fill material, are low capacity, and are used for stock purposes. Depth to water ranges from less than ten to about 200 feet below land surface (Brown, 1989). The main aquifer in the lower Bonita Creek area is the alluvial deposits along the creek, and to a lesser extent, the surrounding and underlying volcanic rocks. Heindl and McCullough (1961) reported sustained yields from shallow wells tapping the alluvial deposits of 280 gallons per minute. Water quality in both the upper and lower areas generally is suitable or most domestic and stock purposes.

An estimated 1.3 million acre-feet of groundwater are in storage in the basin to a depth of 1,200 feet below land surface (Arizona Department of Water Resources, 1988). Groundwater uses include stock, agriculture and domestic, of which the City of Safford probably takes the largest portion. The city operates an infiltration gallery in the channel-fill of Bonita Creek, located approximately four miles upstream of the confluence with the Gila River. Total withdrawals from the basin in 1985 were about 8,000 acre-feet of groundwater (Arizona Department of Water Resources, 1988).